IN THE CLAIMS

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

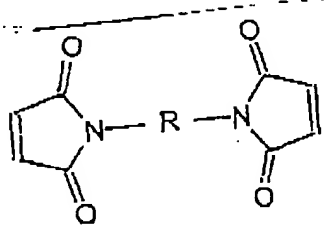
28. (Previously Amended) A method for corrosion-proofing a metal substrate, comprising:

applying a bond coating to the substrate, the bond coating comprising at least one organic adhesion-conferring polymer consists essentially of at least one polybismaleimide selected from the group consisting of: (i) a homopolymer comprising a bismaleimide, (ii) a homopolymer comprising a maleimide-terminated oligomer, (iii) a homopolymer comprising a maleimide-terminated polymer, (iv) a copolymer comprising a bismaleimide, (v) a copolymer comprising a maleimide-terminated oligomer, and (vi) a copolymer comprising a maleimide-terminated polymer wherein the coating is applied from an aqueous solution, an organic solvent solution, a dispersion or an emulsion; and

subsequently stabilizing the bond coating on the substrate surface.

29. (Cancelled) Please cancel claim 29.

30. (Currently Amended) The method according to ~~Claim 31~~ claim 55, wherein the bismaleimide has the formula:



wherein R is a residue selected from the group consisting of:

(A) a linear, substituted $C_1$-$C_6$ hydrocarbon;

(B) a linear, unsubstituted $C_1$-$C_6$ hydrocarbon;

(C) a cyclic, substituted $C_3$-$C_6$ hydrocarbon;

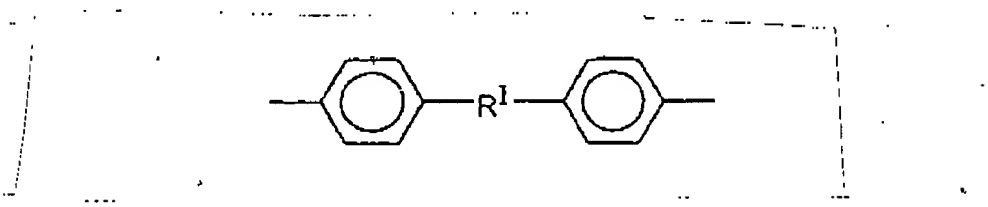
(D) a cyclic, unsubstituted $C_3$-$C_6$ hydrocarbon;

(E) a phenylene residue;

(F) a biphenyl residue;

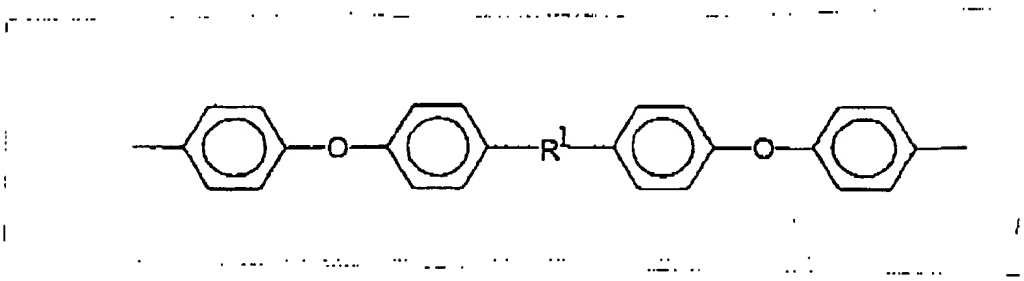
(G) a triazole;

(H) a compound with the formula:



wherein $R^1$ is selected from the group consisting of $CH_2$-, -O-, -C(=O)-, -$C(CF_3)_2$-, -S-, -S-S-, -SO- and -$SO_2$-; and

(I) a compound with the formula:



wherein $R^1$ is selected from the group consisting of $CH_2$-, -O-,

-C(=O)-, -$C(CF_3)_2$-, -S-, -S-S-, -SO- and -$SO_2$-.

31. (Cancelled) Please cancel claim 31.

32. (Currently Amended) The method according to claim ~~29~~ 55, wherein the organic compound is selected from the group consisting of:

(A) a polymerizable unsaturated monomer;

(B) a polymerizable unsaturated oligomer;

(C) a polymer;

(D) a compound containing an amino group;

(E) a compound containing a thio group;

(F) a compound containing allylic double bonds;

(G) a cyanate compound;

(H) an isocyanate compound;

(I) an epoxide;

(J) an alkylcarboxylic acid;

(K) an arylcarboxylic acid;

(L) an alkylphosphonic acid; and

(M) an arylphosphonic acid.

33. (Previously Added) The method according to claim 32, wherein the organic compound has one or two functional groups.

34. (Currently Amended) The method according to claim ~~29~~ 55, wherein the bond coating is applied in a thickness of from 10 to 5,000 nm.

35. (Currently Amended) The method according to claim ~~29~~ 55, wherein the organic solvent solution, aqueous solution, dispersion, and emulsion have concentrations of from 5 to 30 weight percent.

36. (Currently Amended) The method according to claim ~~29~~ 55, wherein before applying the bond coating, at least one catalyst is added to the bond coating.

37. (Previously Added) The method according to claim 36, wherein the at least one catalyst is selected from the group consisting of organic peroxides and ionic catalysts.

38. (Currently Amended) The method according to claim ~~29~~ 55, wherein before applying the bond coating, at least one auxiliary agent is added to the bond coating.

39. (Previously Added) The method according to claim 38, wherein the at least one auxiliary agent is selected from the group consisting of dispersants and emulsifiers.

40. (Currently Amended) The method according to claim ~~29~~ 55, wherein the bond coating is stabilized by heat at a temperature from 50°C to 250°C.

41. (Currently Amended) The method according to claim ~~29~~ 55, wherein the bond coating is stabilized by heat at a temperature from 80°C to 200°C.

42. (Currently Amended) The method according to claim ~~29~~ 55, further comprising, before applying the bond coating, applying a thin organic film comprising at least one organic compound containing a polymerizable functional group, and stabilizing the thin organic film by heat.

43. (Currently Amended) The method according to ~~Claim~~ claim 42, wherein the thin organic film is selected from the group consisting of an aqueous solution, organic solution, dispersion, and an emulsion.

44. (Currently Amended) The method according to ~~Claim~~ claim 43, wherein the concentration of the solution is from 0.05 to 3 weight percent.

45. (Currently Amended) The method according to ~~one of Claims 42~~ claim 42, wherein the organic film is stabilized by heat at temperatures from 20°C to 200°C.

46. (Previously Added) The method according to claim 42, wherein the organic film is stabilized by heat at temperatures from 70°C to 140°C.

47. (Previously Added) The method according to claim 42, further comprising applying a top coating to the substrate after step (c).

48. (Currently Amended) The method according to claim ~~29~~ 55, wherein the substrate is selected from the group consisting of steel, aluminum, galvanized steel and magnesium.

49. (Currently Amended) The method according to claim ~~29~~ 55, the substrate is selected from the group consisting of a vehicle body, an engine, a vehicle body component, an engine component, an assembly, and a coil.

50. (Previously Added) The product produced by the method of claim 28.

51. (Previously Added) A method for corrosion-proofing a metal substrate, comprising:

applying a bond coating to the substrate, the bond coating comprising at least one organic adhesion-conferring polymer, wherein the at least one adhesion-conferring polymer comprises at least one polybismaleimide selected from the group consisting of: (i) a homopolymer comprising a bismaleimide, (ii) a homopolymer comprising a maleimide-terminated oligomer, (iii) a homopolymer comprising a maleimide-terminated polymer, and (iv) a copolymer comprising a maleimide-terminated polymer; wherein the maleimide-terminated polymer is selected from the group consisting of:

(A) a phenol resin;

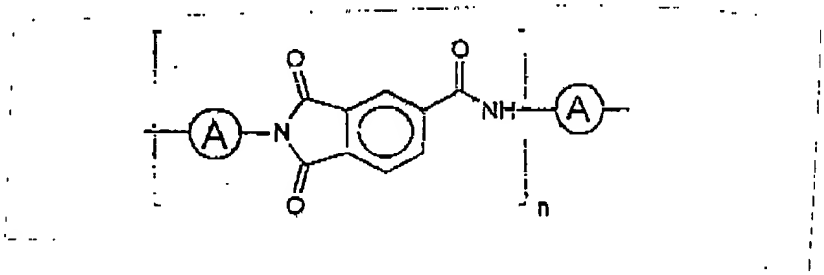
(B) a polyamide;

(C) a polyether ketone;

(D) a polyether sulfone;

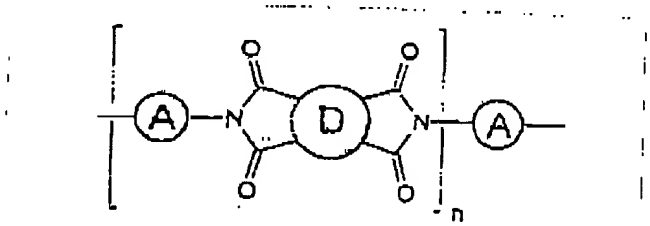
(E) a polyester;

(F) a polydiamide of a polyfunctional acid, with the formula:




wherein A stands for diamine; and

(G) a polydianhydride of a polyfunctional acid, with the formula:



wherein A stands for diamine and D for dianhydride; wherein the coating is applied from an aqueous solution, an organic solvent solution, a dispersion or an emulsion; and

subsequently stabilizing the bond coating on the substrate surface.

52. (Cancelled)

53. (Cancelled)

54. (Cancelled)

55. (New) A method for corrosion-proofing a metal substrate, comprising:

(a) cleaning and de-greasing a substrate;

(b) applying a bond coating to the substrate, the bond coating comprising at least one organic adhesion-conferring polymer consists essentially of at least one polybismaleimide selected from the group consisting of: (i) a homopolymer comprising a bismaleimide, (ii) a homopolymer comprising a maleimide-terminated oligomer, (iii) a homopolymer comprising a maleimide-terminated polymer, (iv) a copolymer comprising a bismaleimide, (v) a copolymer comprising a maleimide-terminated oligomer, and (vi) a copolymer comprising a maleimide-terminated polymer;

wherein the coating is applied from an aqueous solution, an organic solvent solution, a dispersion or an emulsion;

(c) stabilizing the bond coating on the substrate surface by heat or irradiation; and

(d) applying at least one paint coating on the substrate.

56. (New) The method according to ~~Claim 20~~ claim 55, wherein the maleimide-terminated polymer is selected from the group consisting of:

(A) a phenol resin;

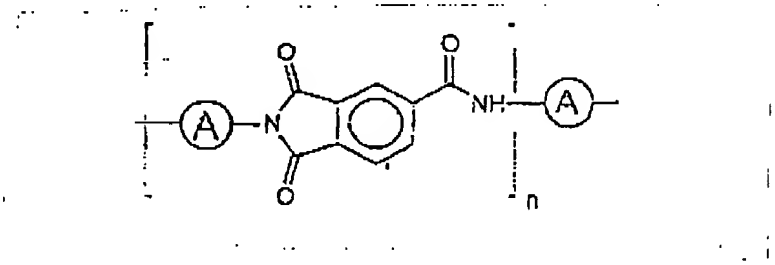
(B) a polyamide;

(C) a polyether ketone;

(D) a polyether sulfone;

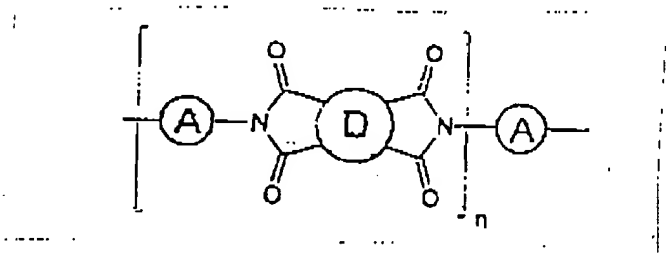
(E) a polyester;

(F) a polydiamide of a polyfunctional acid, particularly with the formula:




wherein A stands for diamine; and

(G) a polydianhydride of a polyfunctional acid, particularly with the formula:




wherein A stands for diamine and D for dianhydride.